

CLAIMS

1. An HPV-DNA being between around 7000 and 8000 base pairs in size, or a fragment of such HPV-DNA being chosen from among HPV-DNAs derived from papillomaviruses
 5 corresponding to the designations HPV-2d, HPV-10b, HPV-14a, HPV-14b, HPV-15, HPV-17a, HPV-17b, HPV-19, HPV-20, HPV-21, HPV-22, HPV-23, HPV-24, HPV-28, HPV-29, HPV-31, HPV-32, HPV-IP2 and HPV-IP4.

2. A DNA fragment according to Claim 1,
 10 characterized in that it corresponds to genes E1, E6-E7, L1 or L2, or to an inter-gene region of the said HPV-DNA.

3. A recombinant DNA containing an HPV-DNA according to Claim 1 or a fragment according to Claim 2.

15 4. DNA, a fragment or a recombinant DNA according to Claim 1, for use as a probe for the detection of HPV-DNAs.

5. A composition useable for the detection of papillomavirus in the biological environment which
 20 contains it, characterized in that it contains several distinct HPV-DNAs conforming to Claim 1.

6. The kit containing several probes or a mixture of distinct probes, characterized by 9 groups of probes ; each of which includes :

- 25 1) at least the DNA of the HPV-2d ;
 2) at least the DNA of one of the HPVs 10b, 28, and/or 29 ;
 3) at least the DNA of one of the HPVs 17 and/or 24 ;
 4) at least the DNA of one of the HPVs 14, 15, 17, 19,
 30 20, 21, 22 and/or 23,
 5) at least the DNA of one of the HPVs 15 and/or 17 ;
 6) the DNA of HPV-24 ;
 7) the DNA of HPVs 14 and/or 32 ;
 8) the DNA of HPV-31 ;
 35 9) the DNA of HPV-32 ;

09854860

it being understood that the DNAs of the nine groups are chosen in such a way as to be in all circumstances different from each other to the extent that each group may be reduced to only one of the DNAs which comprise it.

7. The kit containing several probes or a mixture of distinct probes, characterized by 9 groups of probes ; each of which includes :

- 1) at least the DNA of the HPV-2d ;
- 2) at least the DNA of one of the HPVs 10b, 28, and/or 29 ;
- 3) at least the DNA of one of the HPVs 17 and/or 24 ;
- 4) at least the DNA of one of the HPVs 14, 15, 17, 19, 20, 21, 22 and/or 23,
- 5) at least the DNA of one of the HPVs 15 and/or 17 ;
- 6) the DNA of HPV-24 ;
- 7) the DNA of HPVs 14 and/or 32 ;
- 8) the DNA of HPV-31 ;
- 9) the DNA of HPV-32 ;
- 10) at least the DNA of one of the HPVs 16, 18 and/or IP2 ; it being understood that the DNAs of the nine groups are chosen in such a way as to be in all circumstances different from each other to the extent that each group may be reduced to only one of the DNAs which comprise it.

8. A process for the detection and identification of the papillomavirus(es) contained in a biological sample, which includes the realization of hybridization assays with one or more HPV-DNAs, fragments of HPV-DNAs or recombinant DNAs or again compositions which give rise to preferential hybridization with HPV-DNAs previously obtained from the said biological samples.

9. Papillomaviruses purified biologically pure, wherein they belong to the same type as one of the papillomaviruses identified in Claim 1.